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TTIP and the bilateral trade relationships between Austria and the US

Evidence from a product space augmented gravity model for
manufacturing industries

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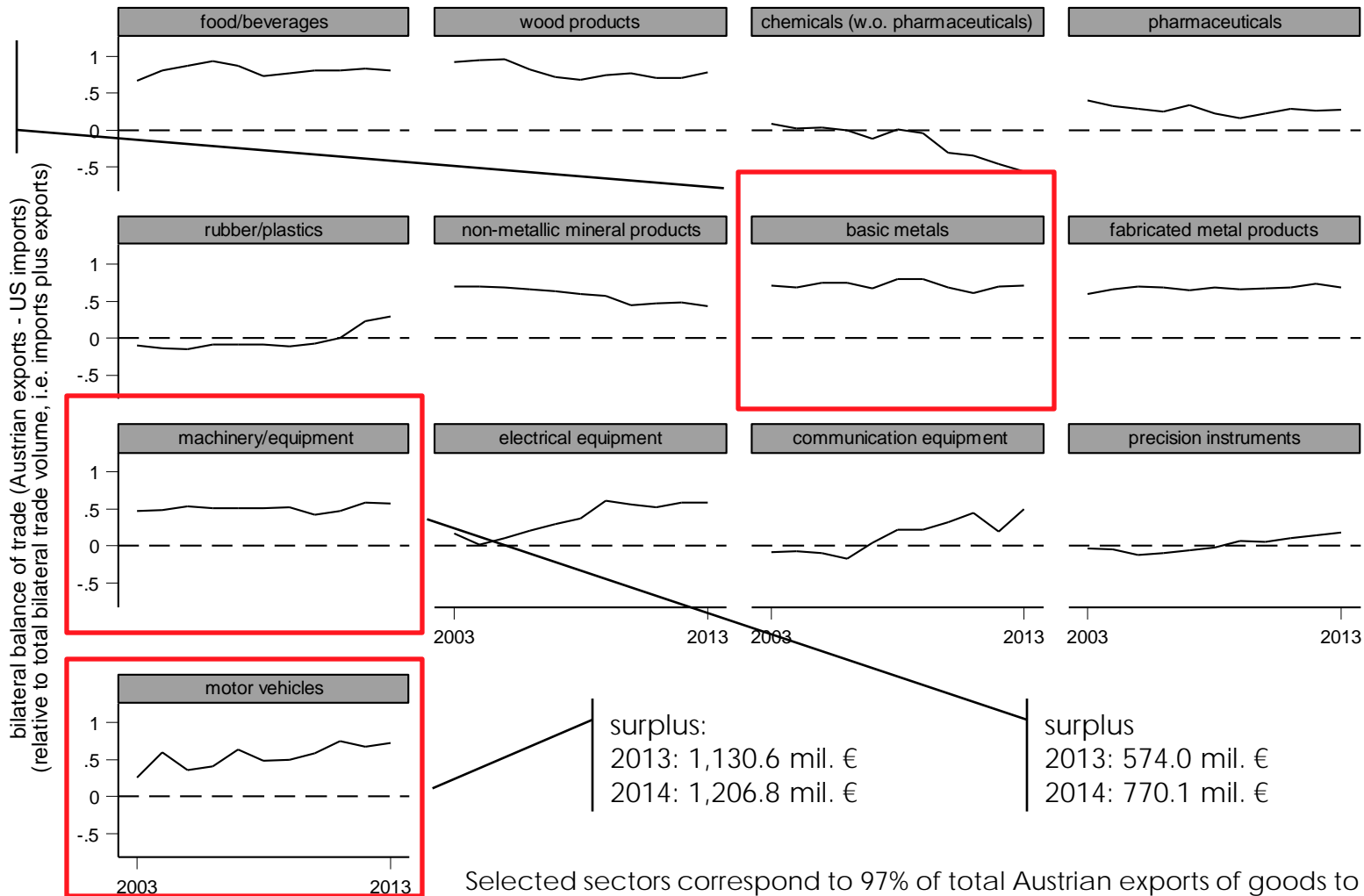
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Study (in German) available under <http://www.wifo.ac.at/wwa/pubid/58723>

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- Commissioned by the Austrian Federal Chancellery to assess potential impact of TTIP on manufacturing sector taking into consideration past developments, as well as development of drivers of competitiveness and specialisation
 - New: Consideration of local external effects and local search bias resulting in path dependencies in specialisation potentially affecting trade outcomes after removal of trade barriers
 - Approach: Data driven qualitative assessment of development of AT-US trade in goods
 - Input – Output analysis of Austrian VA content and employment in EU trade with the US (WIOD)
 - Bilateral trade indicators
 - (Technological) Competitiveness indicators
 - Gravity estimations (with local externalities proxy and interaction with free trade agreement indicator)

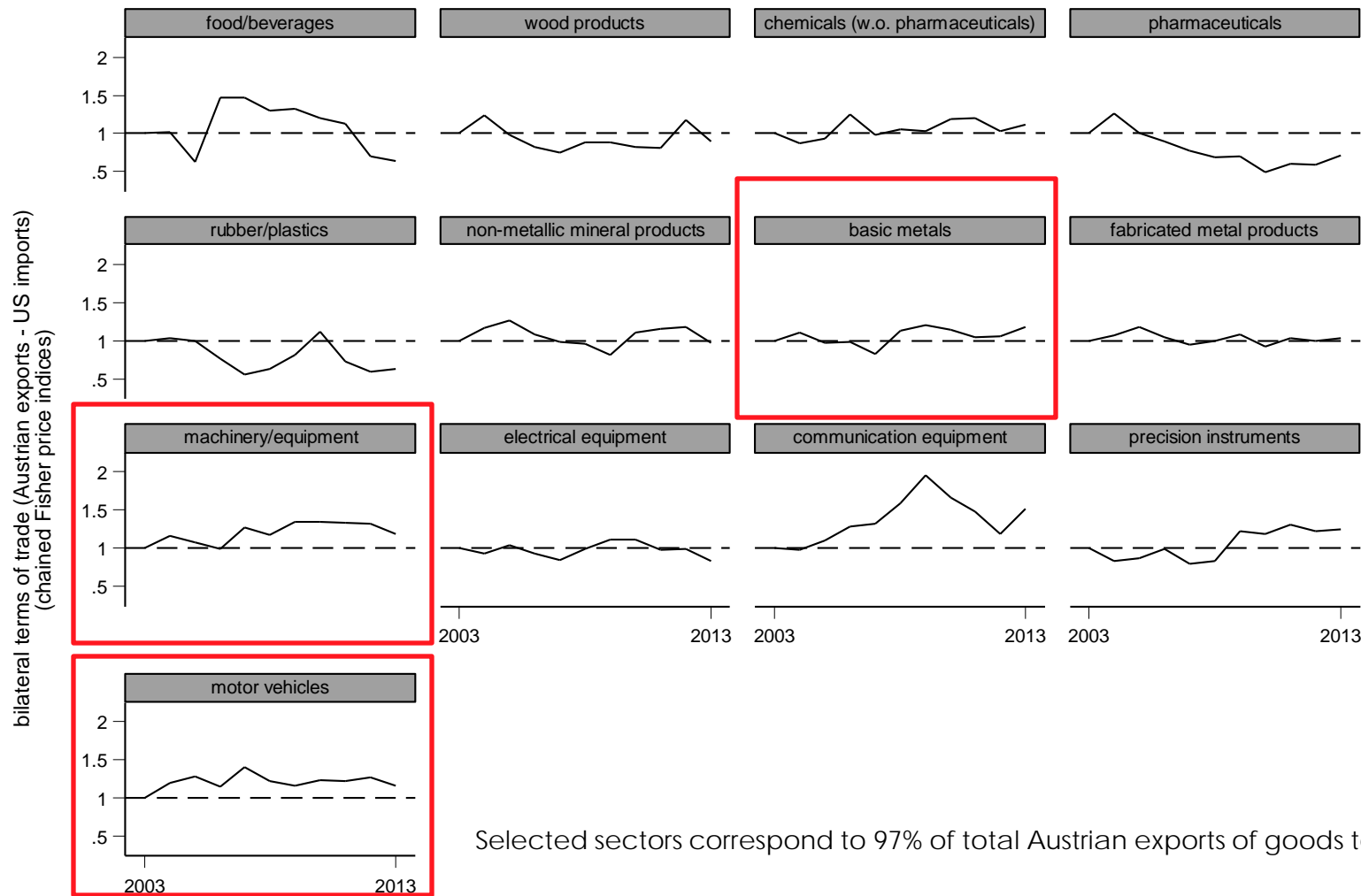
AT-US bilateral trade in retrospect: Favourable trade balances for Austria in almost all industrial sectors

surplus
2013: 359.4 mil. €
2014: 444.5 mil. €



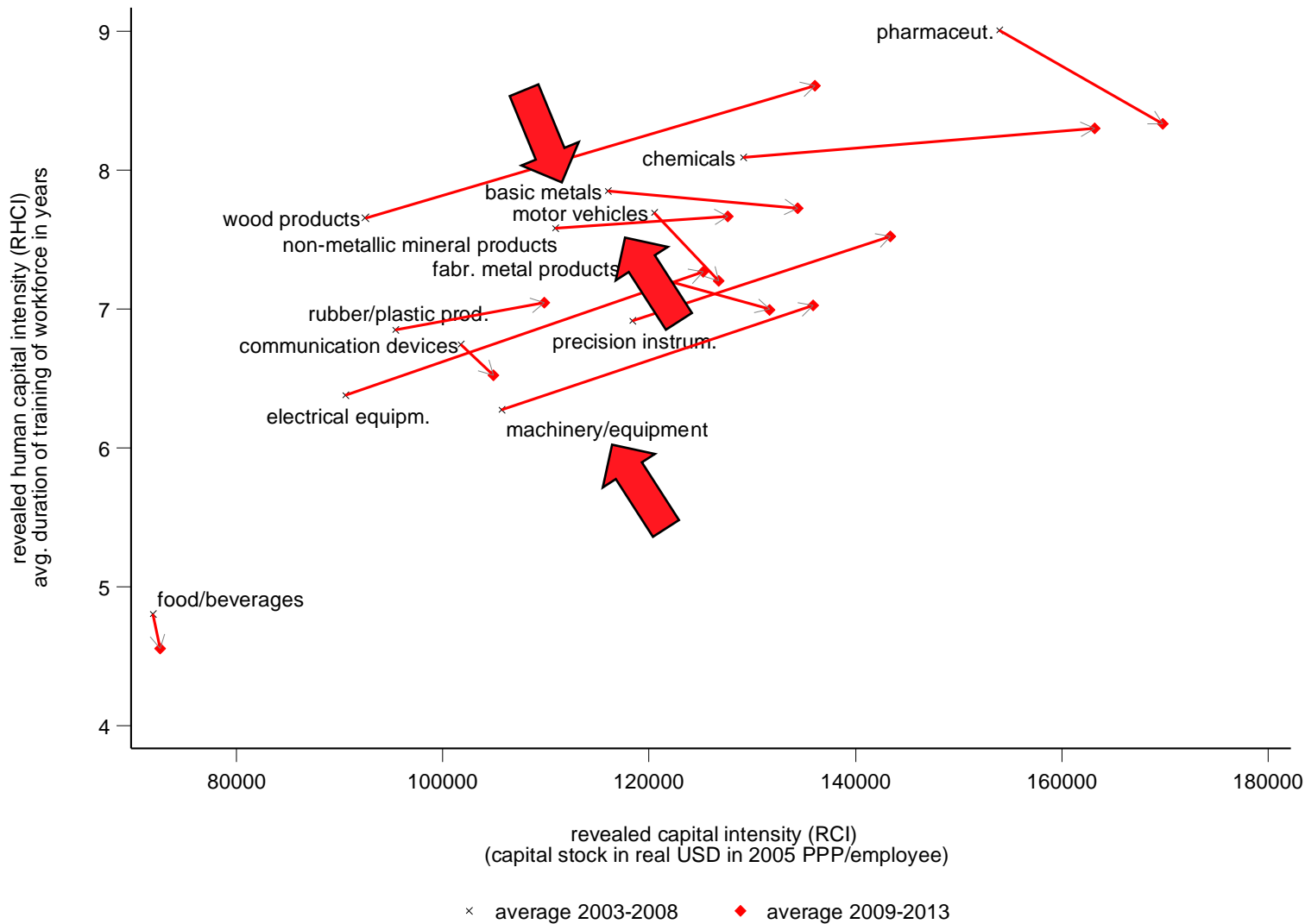
year

AT-US bilateral trade in retrospect: Bilateral terms of trade balanced or favourable for Austria in most industrial sectors



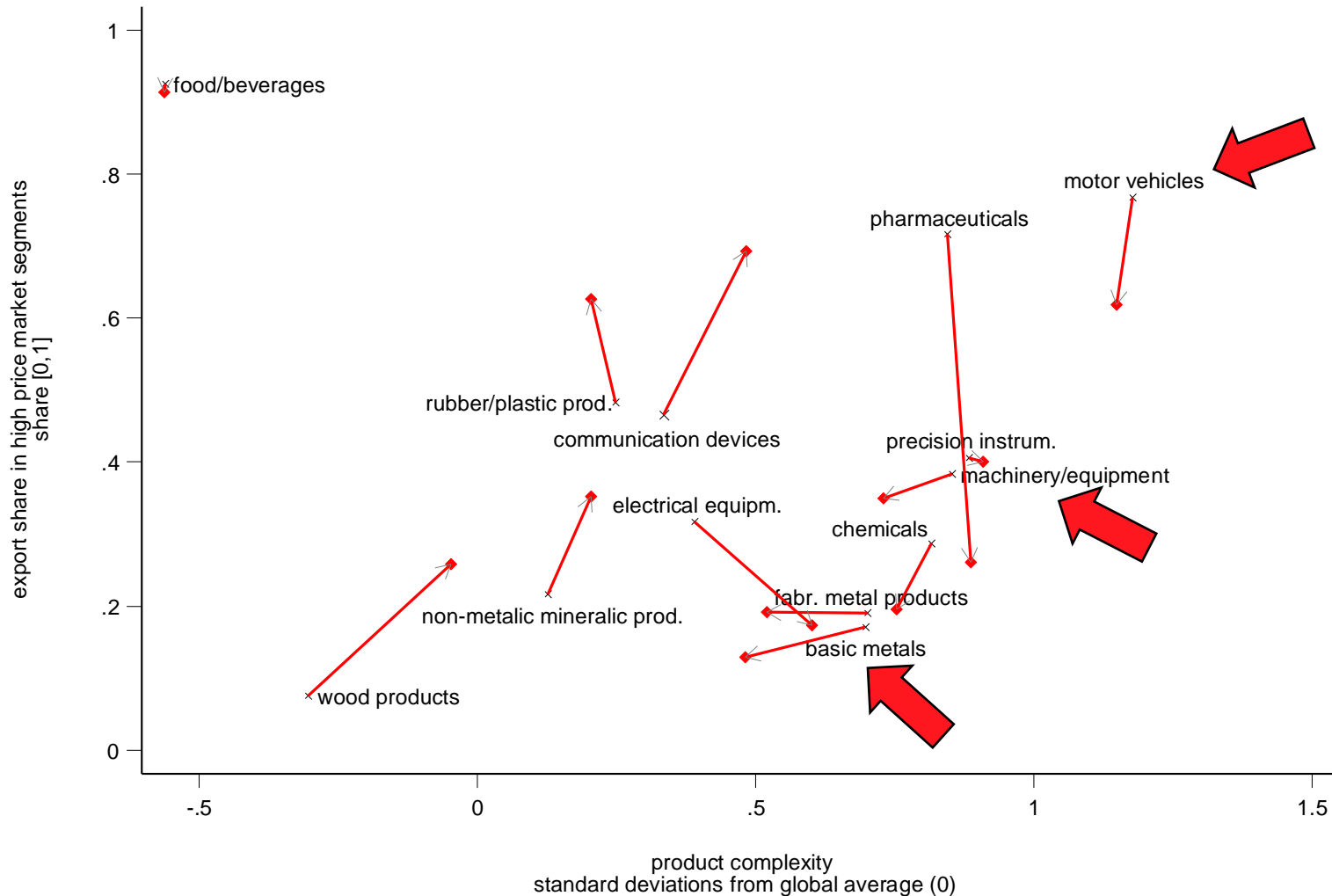
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AT exports to the US: Increasing capital and human capital intensity content of traded goods



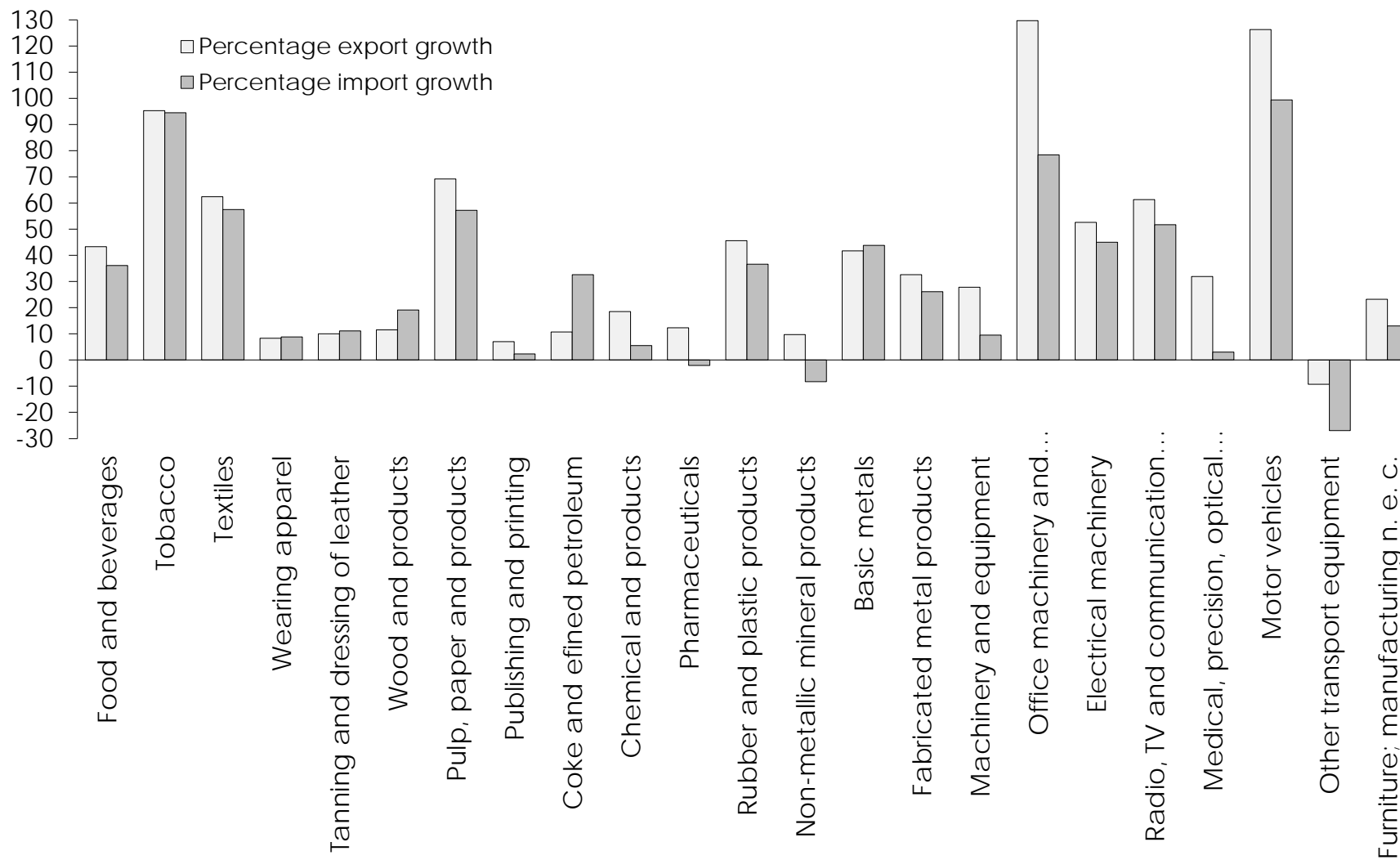
Q: WIFO calculations; BACI/Comtrade data; NACE Rev 1.1;
 Revealed factor intensities calculated following Shirotori, M., Tumurchudur, B., Cadot, O. (2010)

AT exports to the US: Falling export shares in high quality/sophisticated products in some key sectors



x average 2003-2008 ♦ average 2009-2013

Counterfactual estimation results: further improvement of trade balance in most manufacturing sectors



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- The development of bilateral trade between Austria and the US has been rather favorable for Austria over the past ten to fifteen years
 - Trade with the US has generally been in sophisticated, human capital intense products as well as in high quality market segments
 - For the motor vehicles, the basic metals and machinery and equipment (technological) competitiveness during the crisis years has declined, but trade balances in the former two industries have been consistently positive for Austria.
 - Our estimates suggest, TTIP would be likely to sustain and promote the generally positive developments observed over the past decade: further improvement of most sectoral trade balances
 - Estimates suggest Austrian motor vehicles, machinery and equipment, communication devices, electrical equipment, fabricated metal products, rubber and plastics industries will be main beneficiaries.
 - Additional result: Free trade agreements tend to weaken the local search bias and related path dependence of exporters in exploring opportunities, this is an important implication for Austria as the structural transformation of its manufacturing sector evolved rather sluggishly in the past

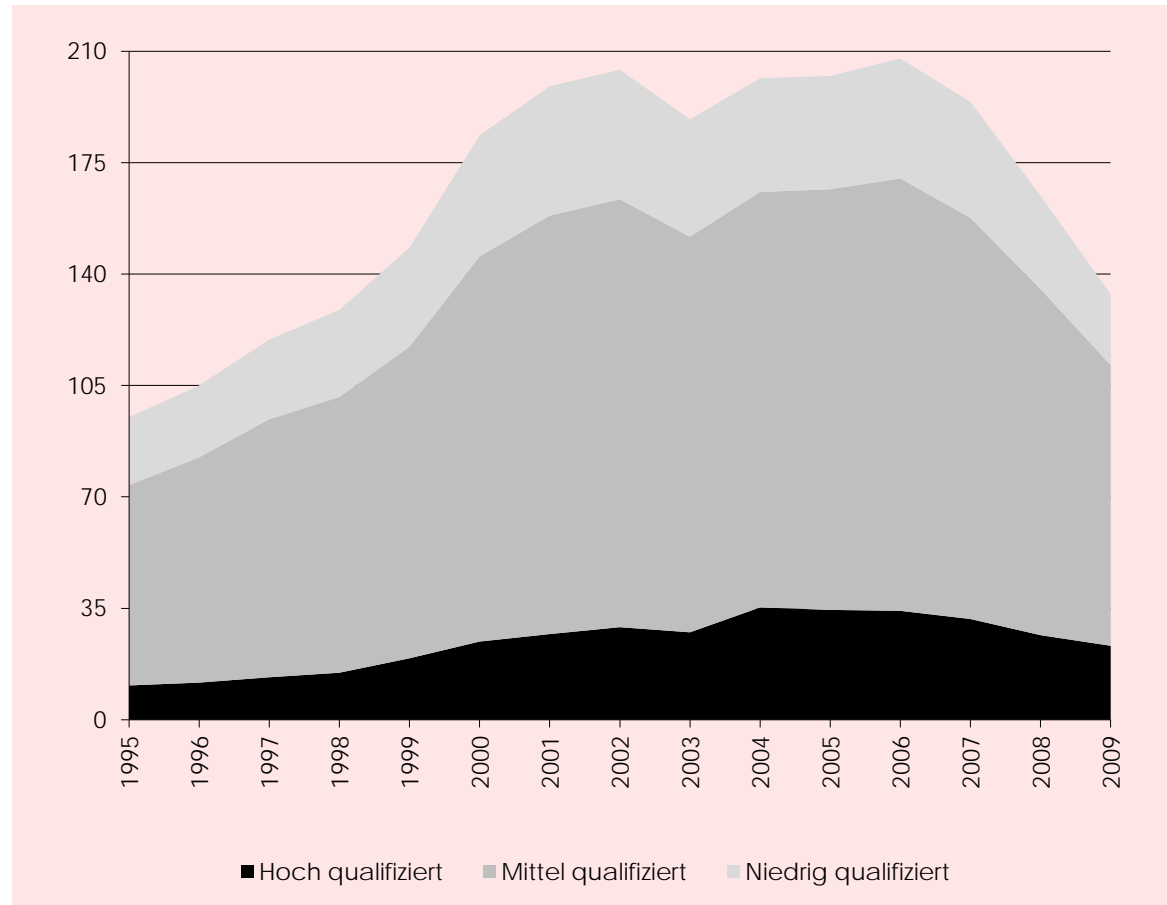
ADDITIONAL MATERIALS

Austrian trade in goods with the US, 2014 and changes between 2003-2014

		Export	Import	Handels- bilanz	Export	Import	Export	Import	Handels- bilanz
		2014			2003/2014				
NACE	Beschreibung	Mio. €			Anteile in %		Durchschn.	Veränd.	
1.1							Veränd. in %	in Mio. €	
15	Lebensmittel	438.2	61.0	377.2	6.5	1.8	7.6	2.0	230.3
16	Tabak	0.0	0.2	-0.2	0.0	0.0	.	-10.2	0.4
17	Textilien	28.5	17.8	10.7	0.4	0.5	-0.7	2.4	-6.5
18	Bekleidung	29.1	10.2	18.9	0.4	0.3	9.9	4.1	15.1
19	Leder/Lederwaren	36.7	12.0	24.7	0.5	0.4	9.0	9.1	15.1
20	Holz/Holzwaren	14.1	6.8	7.3	0.2	0.2	-16.0	-1.5	-81.5
21	Papier/Pappe	27.2	31.6	-4.4	0.4	0.9	4.4	2.3	3.3
22	Verlag/Druck	6.0	6.8	-0.8	0.1	0.2	-2.5	-7.4	7.1
23	Erdölv erarbeitung	0.0	7.5	-7.5	0.0	0.2	17.2	5.6	-3.4
24	Chemie	649.5	952.7	-303.2	9.6	28.3	0.2	6.8	-476.5
24.4	Pharma	498.8	660.4	-161.5	7.4	19.6	-0.5	7.4	-386.8
25	Kunststoff	120.5	98.6	21.9	1.8	2.9	8.6	2.7	46.6
26	Glas/Keramik	143.8	62.9	80.9	2.1	1.9	3.0	6.6	7.8
27	Metallerzeugung	575.5	131.0	444.5	8.5	3.9	14.6	13.8	348.1
28	Metallprodukte	225.4	50.2	175.2	3.3	1.5	2.1	-1.0	52.3
29	Maschinenbau	1,163.7	393.6	770.1	17.2	11.7	6.5	3.6	452.4
30	Büromaschinen	30.1	106.3	-76.3	0.4	3.2	1.6	-8.0	165.9
31	Elektrische Geräte	401.9	122.6	279.3	5.9	3.6	6.3	-4.4	275.1
32	Telekomm-Geräte	79.4	25.5	53.9	1.2	0.8	1.6	-19.9	279.5
33	Präzisionsgeräte	694.5	365.8	328.7	10.3	10.9	10.4	0.6	437.6
34	Fahrzeugbau	1,525.1	318.4	1,206.8	22.6	9.5	4.3	-3.6	728.2
35	Sonstiger Fahrzeugbau	429.0	395.6	33.4	6.3	11.7	9.8	0.4	259.3
36	Möbel/a. Waren	92.5	54.5	38.0	1.4	1.6	0.1	4.2	-19.1
15-36	Sachgütererzeugung	6,710.8	3,231.5	3,479.3	99.3	96.0	5.3	0.5	2,737.1
01-99	Insgesamt	6,761.0	3,367.7	3,393.2	100.0	100.0	5.4	0.7	2,701.7

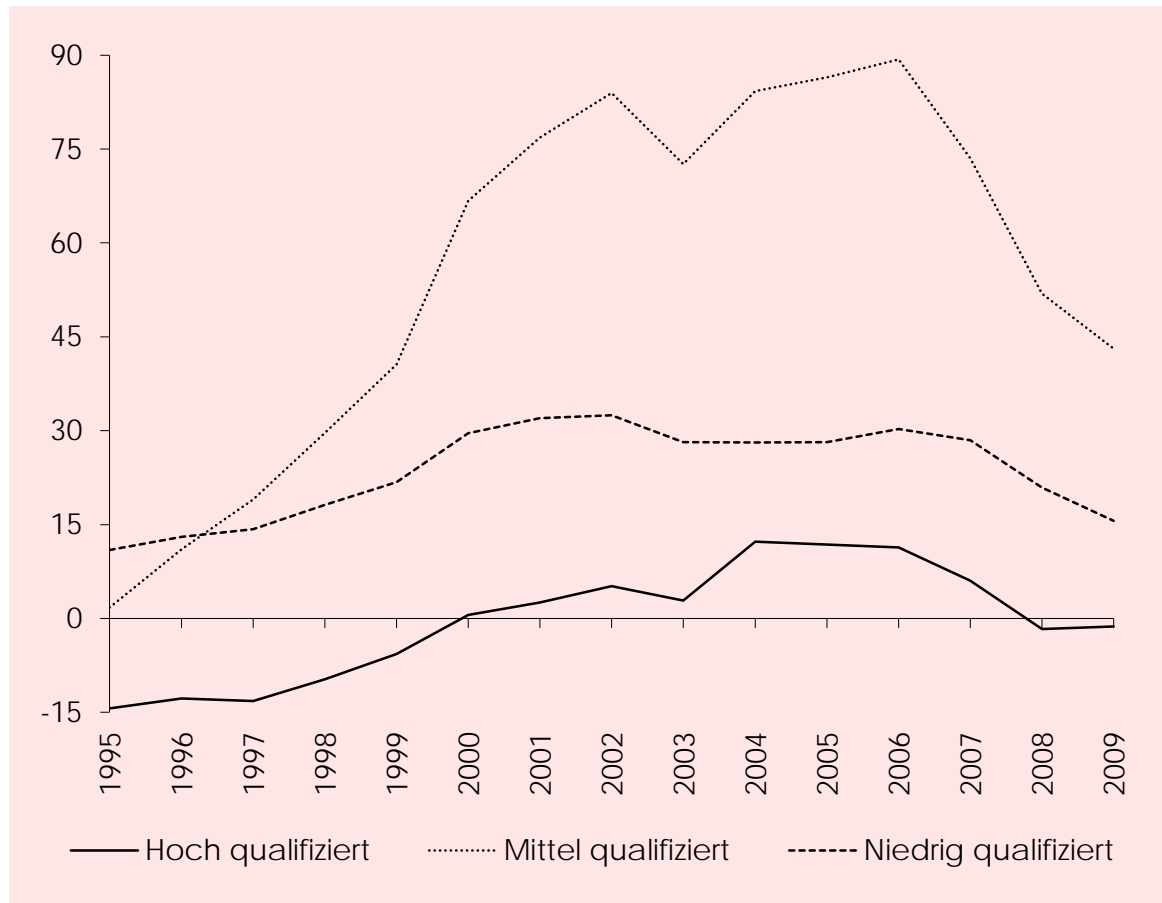
Austrian working hours (in mil. hours) embodied in US final demand, 1995-2009

	Hoch qualifiziert	Mittel qualifiziert	Niedrig qualifiziert
	Mio. Arbeitsstunden		
1995	10,8	62,9	21,3
1996	11,7	70,7	22,6
1997	13,3	81,0	25,0
1998	14,8	86,6	27,3
1999	19,3	97,8	31,2
2000	24,6	121,0	38,0
2001	26,9	131,4	40,6
2002	29,1	134,4	40,7
2003	27,5	124,3	36,9
2004	35,3	130,5	35,7
2005	34,5	132,1	35,6
2006	34,2	135,8	37,7
2007	31,6	126,0	36,5
2008	26,6	108,7	29,3
2009	23,2	88,2	22,3

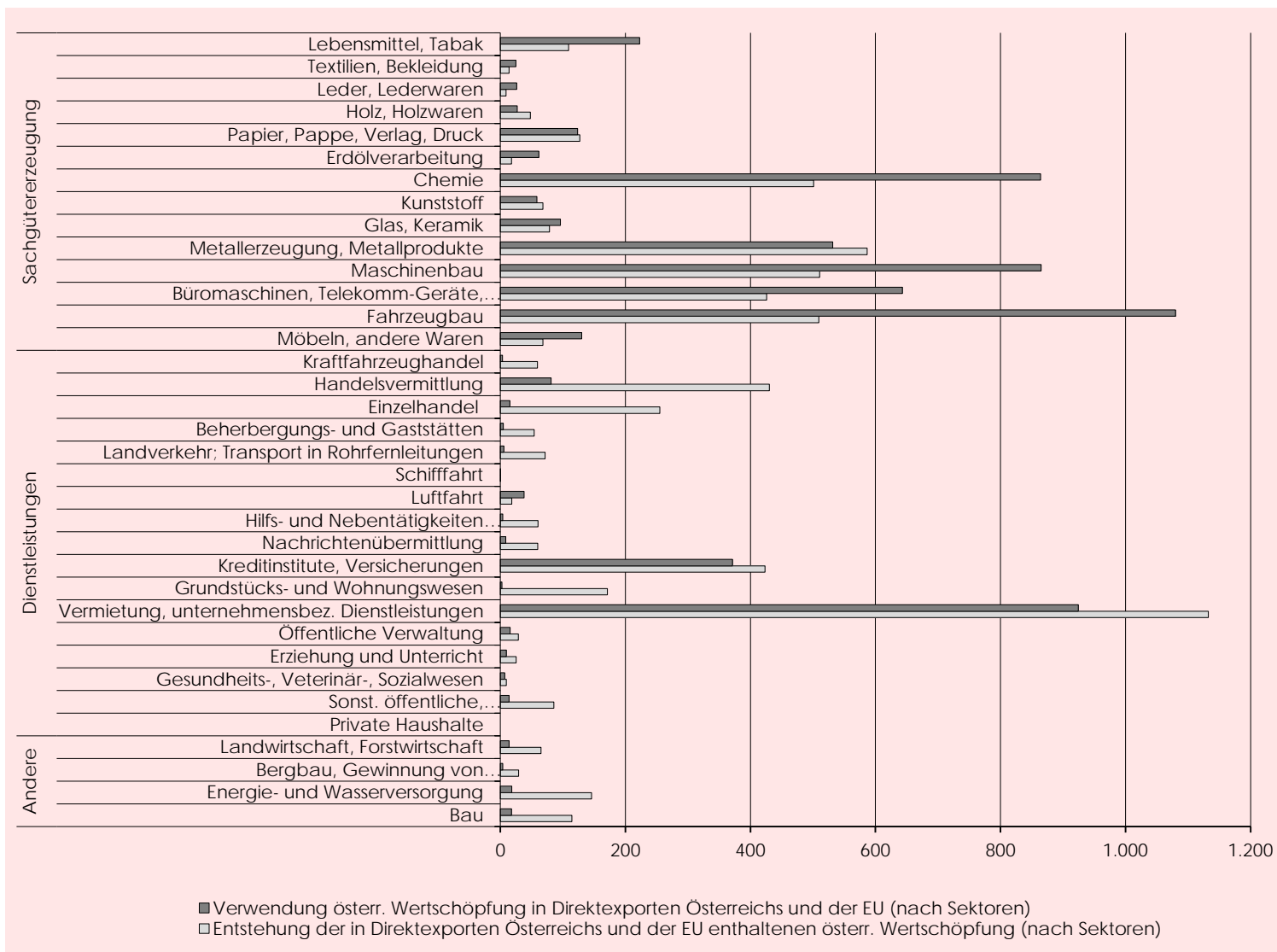


Working hours balance (in value added of US and AT final demands) by qualification segments

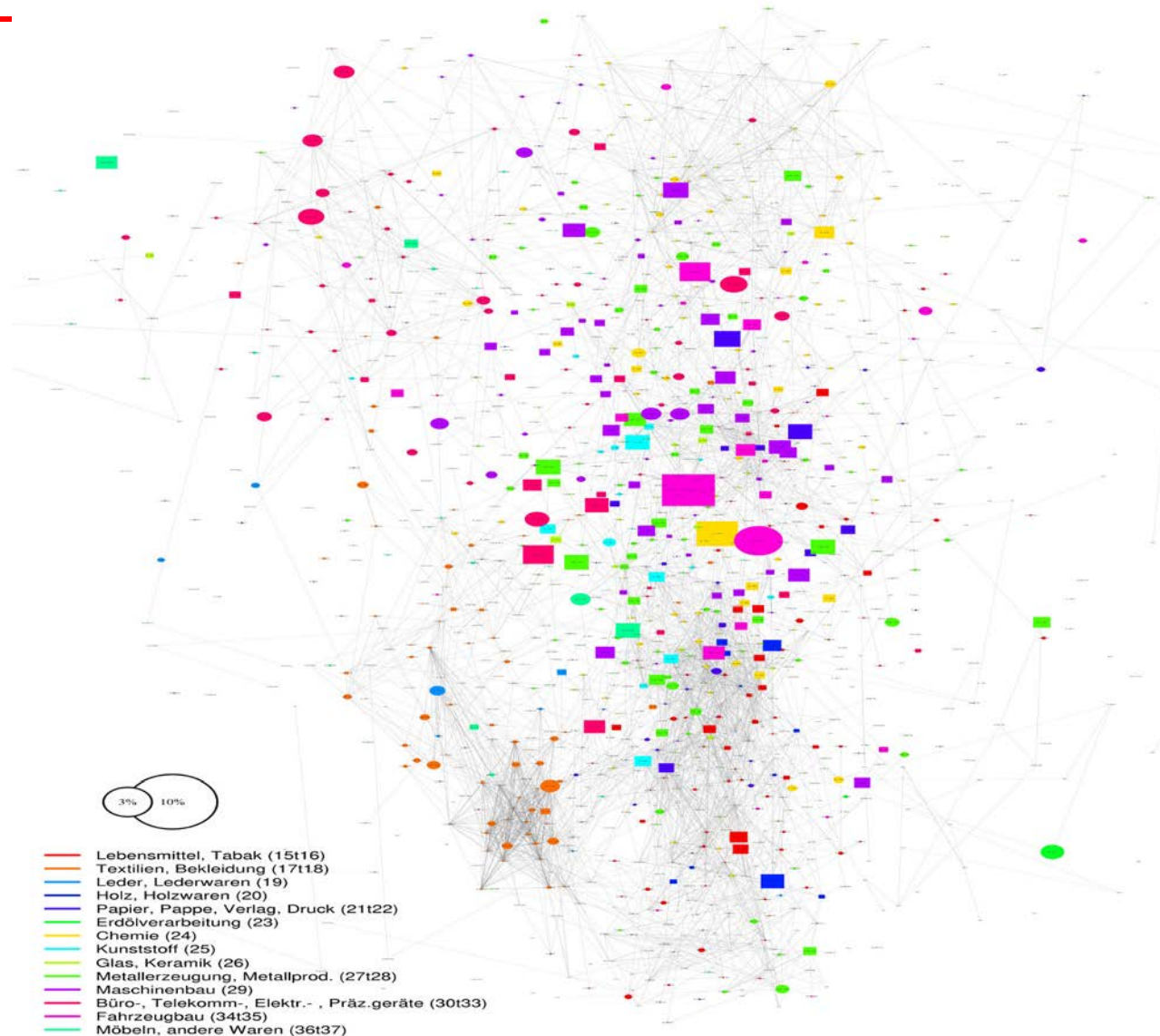
	Hoch qualifiziert	Mittel qualifiziert	Niedrig qualifiziert
	Mio. Arbeitsstunden		
1995	-14,4	1,7	11,0
1996	-12,8	11,0	13,0
1997	-13,2	19,0	14,3
1998	-9,7	29,7	18,1
1999	-5,7	40,6	21,8
2000	0,6	66,7	29,6
2001	2,6	76,8	32,0
2002	5,2	83,9	32,5
2003	2,9	72,6	28,2
2004	12,3	84,3	28,1
2005	11,8	86,4	28,2
2006	11,4	89,3	30,3
2007	6,0	73,5	28,5
2008	-1,7	51,9	20,9
2009	-1,3	43,1	15,6



Austrian VA generation and realisation by sector in European exports to the US (in mil. €)



Embedding of Austrian manufacturing in the global product space



NACE 1.1	In GDP Exporter	In GDP Importer	In Distance	Common border dummy	FTA dummy	Lag of density	FTA * lag of density	Time dummies	N	Pseudo-R ²
15	0.513*** (0.00859)	0.668*** (0.00539)	-0.706*** (0.0157)	0.624*** (0.0368)	0.734*** (0.0612)	0.0266*** (0.00103)	-0.00911*** (0.0018)	X	320,156	0.806
16	0.225*** (0.0202)	0.613*** (0.0249)	-1.012*** (0.0321)	0.241** (0.103)	0.738*** (0.236)	0.0424*** (0.00291)	-0.000889 (0.00595)	X	237,810	0.534
17	0.383*** (0.0109)	0.681*** (0.0129)	-0.621*** (0.0245)	0.394*** (0.0632)	0.929*** (0.128)	0.0819*** (0.00163)	-0.0119*** (0.00385)	X	318,550	0.82
18	0.281*** (0.0115)	0.897*** (0.0145)	-0.602*** (0.0257)	0.492*** (0.0734)	0.556*** (0.166)	0.0896*** (0.00165)	-0.0149*** (0.00478)	X	318,548	0.794
19	0.323*** (0.0124)	0.812*** (0.0209)	-0.494*** (0.0349)	0.593*** (0.0701)	0.385** (0.158)	0.0953*** (0.00178)	-0.00838* (0.00441)	X	314,408	0.821
20	0.438*** (0.0112)	0.784*** (0.0145)	-0.766*** (0.0224)	0.779*** (0.0525)	1.089*** (0.105)	0.0335*** (0.00179)	-0.0226*** (0.00255)	X	310,890	0.755
21	0.590*** (0.0131)	0.733*** (0.00782)	-0.718*** (0.0183)	0.598*** (0.0471)	1.103*** (0.079)	0.0299*** (0.00138)	-0.0133*** (0.00235)	X	304,615	0.821
22	0.544*** (0.0199)	0.662*** (0.0172)	-0.756*** (0.0487)	0.936*** (0.0708)	0.821*** (0.147)	0.0468*** (0.00173)	-0.0190*** (0.00316)	X	314,629	0.763
23	0.819*** (0.0135)	0.765*** (0.0117)	-0.845*** (0.0272)	0.541*** (0.0649)	-0.486*** (0.104)	-0.0405*** (0.00218)	0.0168*** (0.00373)	X	265,457	0.619
24	0.690*** (0.0122)	0.742*** (0.00699)	-0.848*** (0.0186)	0.190*** (0.0476)	0.596*** (0.095)	0.0200*** (0.00144)	-0.0111*** (0.00276)	X	319,077	0.865
24.4	0.452*** (0.0143)	0.794*** (0.0121)	-0.729*** (0.0323)	0.242*** (0.064)	0.917*** (0.15)	0.0561*** (0.00207)	-0.0200*** (0.00353)	X	304,068	0.782
25	0.595*** (0.0134)	0.727*** (0.0111)	-0.723*** (0.0225)	0.587*** (0.0476)	1.307*** (0.0693)	0.0501*** (0.00142)	-0.0232*** (0.00199)	X	319,261	0.894
26	0.478*** (0.0101)	0.652*** (0.0087)	-0.751*** (0.0195)	0.777*** (0.0395)	1.617*** (0.0872)	0.0631*** (0.00138)	-0.0386*** (0.00208)	X	315,498	0.871
27	0.680*** (0.0137)	0.723*** (0.00764)	-0.703*** (0.0277)	0.504*** (0.0546)	0.202* (0.106)	0.000346 (0.00143)	0.00427 (0.00269)	X	319,612	0.762
28	0.556*** (0.012)	0.691*** (0.0117)	-0.671*** (0.0191)	0.665*** (0.0444)	1.415*** (0.0755)	0.0597*** (0.00138)	0.0279*** (0.00198)	X	319,618	0.885
29	0.642*** (0.0112)	0.760*** (0.00855)	-0.584*** (0.0235)	0.300*** (0.049)	1.261*** (0.0701)	0.0510*** (0.00126)	-0.0250*** (0.0017)	X	319,974	0.905
30	0.196*** (0.0201)	0.901*** (0.0204)	-0.513*** (0.0407)	0.146 (0.102)	1.571*** (0.189)	0.103*** (0.00387)	-0.0223*** (0.0063)	X	316,410	0.783
31	0.635*** (0.0152)	0.753*** (0.0134)	-0.598*** (0.0342)	0.465*** (0.0827)	1.309*** (0.121)	0.0503*** (0.00199)	-0.0220*** (0.00396)	X	319,611	0.861
32	0.345*** (0.0213)	0.761*** (0.0177)	-0.683*** (0.0461)	0.18 (0.122)	0.678*** (0.255)	0.0806*** (0.00394)	-0.00569 (0.00863)	X	319,435	0.744
33	0.665*** (0.0147)	0.876*** (0.0089)	-0.533*** (0.0278)	0.285*** (0.0674)	1.077*** (0.11)	0.0439*** (0.00178)	-0.0207*** (0.00298)	X	318,352	0.878
34	0.672*** (0.0188)	0.879*** (0.0169)	0.540*** (0.0295)	0.537*** (0.0724)	1.534*** (0.102)	0.0445*** (0.00239)	-0.0167*** (0.00279)	X	318,894	0.861
35	0.787*** (0.0199)	0.578*** (0.017)	-0.395*** (0.0291)	0.758*** (0.0747)	0.545*** (0.106)	0.0232*** (0.0023)	-0.0164*** (0.00231)	X	313,146	0.669
36	0.449*** (0.0121)	0.849*** (0.0237)	-0.474*** (0.0469)	0.547*** (0.0654)	1.139*** (0.209)	0.0717*** (0.00276)	-0.0246*** (0.00463)	X	319,458	0.775